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Combining benefit-sought segmentation and service quality gap analysis: Case study of Paklenica National Park, Croatia

Abstract

As visitors to national parks differ in terms of their profiles and needs, an empirical evaluation of the quality of their experiences, if based on a homogeneous sample, may lead to false conclusions and, hence, inappropriate management decisions. Using Paklenica National Park as a case study, this paper aims to provide a more heterogeneous perspective on the definition of the quality of visitor experiences with park facilities and services. Data were randomly collected from visitors by means of a self-administered questionnaire with a face-to-face approach (n=342). First, visitors were segmented according to the benefits sought. Second, the differences between the obtained segments were examined in terms of the importance of and satisfaction with the facilities and services provided by the park agency. Hierarchical and K-mean cluster analyses resulted in the identification of three distinct segments: Naturalists, Escapists and Ecotourists. In terms of the importance given to and satisfaction with the park facilities and services, the results indicated that the segments significantly differed in four out of six underlying factors. The results of the gap analysis showed that the quality of the experience differed across the segments. The findings of this study revealed that visitor market segmentation can serve as a powerful technique in evaluating the quality of visitors´ experiences.

Key words: nature-based tourism; national park visitor experiences; benefit-sought segmentation; service quality gap analysis; Croatia

Introduction

Nature-based tourism refers to a form of tourism in which the natural outdoor environment, in its wild and undeveloped form, remains one of the key attractions or settings for tourists (Fennell, 2007). It is commonly perceived as an umbrella term under which different tourism subsets, such as ecotourism, nature tourism or adventure tourism, may appear (Buckley, 2008; Fennell, 2007; Hall & Boyd, 2005; Newsome, Moore & Dowling, 2002). In the literature, the significance of nature-based tourism is widely acknowledged and is often considered the fastest growing component of tourism industry as whole, with an increase in between 10% and 30% per year (Balmford, Beresford, Green, Naidoo, Walpole & Manica, 2009; Marques, Reis & Menezes, 2010; Mehmetoglu, 2005; Nyaupane, Morais & Graefe, 2004; Pickering & Weaver, 2003). Ecotourism remains one of the most widely discussed sub-components of nature-based tourism. To date, considerable attention has been paid to the question of what constitutes ecotourism, and numerous definitions have been proposed (Weaver,

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2001a, b). Despite the ongoing debate, there is widespread agreement among scholars that ecotourism refers to environmentally responsible travel to relatively unspoiled natural areas with the aim of (i) enhancing environmental education, learning and appreciation, (ii) contributing to the conservation of the natural environment in terms of its responsible use and (iii) fostering the socio-economic prosperity of the host community (Diamantis 1999; Wight, 1993; Weaver, 2001a, b). Nature tourism primary focuses on the natural environment itself (Black & Crabtree, 2007); in other words, it relies on individual experiences related to the observation or contemplation of flora, fauna or landscape scenery (Buckley, 2008). Adventure tourism is perceived as travel to remote or exotic places for active exposure to unknown experiences that often involve certain level of risk and personal challenge (Sung, Morrison & O'Leary, 1997).

Nature-based tourism attractions may vary, but protected areas remain an overwhelmingly dominant component (Balmford et al., 2009; Walker & Walker, 2011; Weaver, 2001a). Among the various types of nature-based attractions, national parks enjoy a special reputation because they represent globally recognized names that offer a wide range of opportunities for experiencing high-quality, pristine natural settings and participation in various outdoor, nature-based activities (Mason, 2005; Pigram & Jenkin, 2006). Consequently, many park managers have a common responsibility, aside from biodiversity conservation duties, to provide visitors with a wide range of opportunities (i.e., facilities and services) to ensure a high quality experience (Tonge & Moore, 2007). Given that the success of many protected areas largely depends upon the quality of the visitor experience, park managers require knowledge about how the amenities that are offered affect the quality of a visitor's experience (Hamilton, Crompton & More, 1991; Hornback & Eagles, 1999). One of the principal measures of the quality of a visitor's experience is satisfaction. Information on visitor satisfaction became a crucial requirement to managers as this information allows them to more effectively adjust the facilities and services according to visitors' expectations (Hornback & Eagles, 1999). Given that many of protected natural settings appeal to different types of visitors who do not respond homogeneously to market-based activity (Marques et al., 2010; Wight, 2001), it is questionable to hypothesize that, if based on a homogenous visitor sample, the assessment of visitor preferences and perceptions of service quality (i.e., satisfaction) will result in managerially useful information.

Despite several recent studies (e.g., Tonge & Moore, 2007) emphasizing the need for the integration of market segmentation in the evaluation of service quality, to the authors´ best knowledge, very little has been done in this regard (e.g., Wade & Eagles, 2003). Therefore, using Paklenica National Park as a case study, the main intention of this study is to provide a more heterogeneous perspective on the definition of the quality of visitors´ experiences in protected areas.

Concept and literature review

General characteristics of nature-based tourists

A variety of techniques has been employed to distinguish nature-based tourists from the general tourist population. For instance, Ballantine and Eagles (1994) defined ecotourists according to the importance given to visiting a wilderness or protected area, the desire to learn about nature, and time spent on ecotourism activities during the trip. Boo (1990) identified nature tourists by assessing the importance they placed on the presence and availability of protected areas when choosing a country as a destination. There is a common consensus among scholars in the field in considering nature-based tourists (e.g., protected area visitors) a homogenous group, as they tend to share similar characteristics that generally differ from those of mainstream travellers (Eagles, 1992; Kretchaman & Eagles, 1990; Kruger, 2015;

Wight, 1996). Specifically, the findings indicated that they are predominately female, middle aged (Alaeddinoglu, Nuray, Ali & Sevgi, 2013; Cheung & Fok; 2014; Kerstetter, Hou & Lin, 2004), well educated (Bricker & Kerstetter, 2002; Kruger, 2015) and tend to fall within relatively higher income categories when compared with the general population (Marques et al., 2010; Mehmetoglu, 2007). Moreover, they prefer to remain at chosen attractions for longer periods and expect to incorporate a wider range of experiences (Palacio & McCool, 1997; Wight, 1996). Yet, with regard to push factors (i.e., travelling motivations/benefits desired), studies showed that the desire to enjoy and admire nature (Farías Torbidoni, 2011), learning about cultural and natural features (Alaeddinoglu et al., 2013; Bricker & Kerstetter, 2002), escape and solitude (Holden & Sparrowhawk, 2002), social affiliation (Palacio & McCool, 1997) and personal achievement (Raadik, Cottrell, Fredman, Ritter & Newman, 2010) are considered the most important factors. Despite this support from the literature, a substantial portion of the studies on visitor market segmentation indicated that nature-based tourists should not be treated as a homogeneous group because their profiles, motivations and behavioural characteristics widely differ (e.g., Farías Torbidoni, 2011; Marques et al., 2010; Weaver & Lawton, 2002).

Market segmentation

Market segmentation is based on the notion that the market is composed of subgroups of people with different and specific needs and preferences (Dolnicar, 2002). According to Walker and Walker (2011), market segmentation refers to the following process: (i) dividing the market into fairly homogeneous segments, (ii) profiling and analysing the extracted segments and (ii) formulating a suitable marketing strategy for each segment. To be managerially efficient, segments should be measurable, accessible and compactible (UNWTO, 2007). Segmentation bases may vary; however, most often used bases involve socio-demographic (e.g., age, gender, education, income), geographic (e.g., place of residence), psychographic (interests, opinions, activities, travel motivation) and behavioural (benefits sought, attitudes, usage rate) criteria (Kotler, Wong, Saunders & Armstrong, 2004). The selection depends on the purpose of the study and the managerial demands of the area in question (Wedel & Kamakura, 2000). There are two elementary segmentation approaches: the priori/common-sense and posteriori/data driven approaches (Dolnicar, 2004; Mazanec, 2000). The former is used when the grouping criteria are defined in advance (e.g., interest group or specific variables such as age). The application of this approach is relatively simple as it lacks methodological pitfalls (Dolnicar & Grun, 2008). In contrast, the latter approach is used when there are no prior insights about the distinct group. Here, homogeneous groups are sought through statistical techniques (i.e., factor and/or cluster analysis) with an empirical survey data. After the segments are defined, they can also be profiled by other variables according to the study objectives (Dolnicar, 2002). In the context of the present study, by using the visitors of Paklenica National Park as members of special interest groups, a common-sense approach was conducted first, followed by a data-driven approach using the visitor-desired benefits as segmentation criteria.

Benefit-based segmentation

In the context of tourism and outdoor recreation, benefits are identified as functions of setting conditions (i.e., social, biophysical and managerial) and activities in which the visitors engage (Driver, 2009). Driver and Bruns (1999) defined recreational benefits as having the following features: (1) improvement in condition, (2) reduction of an undesired condition, and (3) desired condition. While the first two benefit types - the society or biophysical environment - may accrue for individuals, the third type is specifically relevant to individuals (e.g., protected area visitors; Roggenbuck & Driver, 2000). The present study concentrates on segmentation based on desired conditions with the assumption that visitors to Paklenica National Park are not a homogenous group in terms of benefits sought.

Segmentation based on desired benefits is linked to the consumer behavioural field of marketing and examines consumer purchase motivations (Weinstein, 1994). Different authors have argued that this approach may predict behaviour better than approaches based on demographic or geographic criteria (Haley, 1968; Pesonen, Laukkanen & Kompulla, 2011; Wu, 2001). According to Dolnicar (2002), market segmentation by benefits sought refers to posteriori technique, as the structure of segments cannot be known in advance. Haley (1968) argued that a benefit-sought segmentation approach allows researchers to gauge the consumer value system in a more holistic manner. Hanlan, Fuller and Wilde (2006) concluded that, despite some segments seeking multiple benefits, what really distinguishes the segments is the combination of their relative importance. Palacio and McCool (1997) noted that the benefit sought segmentation approach is a powerful tool in product development because it, to a certain extent, defines their attributes. Frochot and Morrison (2000) examined several benefit segmentation studies and found that benefit segmentation appear to be particularly useful in designing and modifying facilities, attractions and service quality management in general.

In the last few decades, a number of protected areas, including national parks, became a hot spot destination for nature-based tourism, and investigations that identify the segmentation of nature-based tourists based on benefits sought or trip motivations have attracted considerable attention from various research teams (e.g., Bricker & Kerstetter, 2002; Farías Torbidoni, 2011; Kerstetter et al., 2004; Marques et al., 2010; McCool & Reilly, 1993; Mehmetoglu, 2005; Palacio & McCool, 1997). However, few of these studies examined the segment differences in terms of preferences for specific facilities and services provided by the area in question.

Segmenting tourists who visited three Montana State Parks in the USA, McCool and Reilly (1993) identified four distinct benefit-based segments: *Enthusiasts*, *Group Naturalists, Nature Escapists* and *Passive Players*. They found that, when compared to the other segments, *Enthusiasts* were more likely to be interested in all aspects of the park experience. Nature experiences were most important to group *Naturalists,* whereas *Escapists* sought solitude and escape from the mundanity of daily life. In terms of preference for park attributes, their findings did not revealed significant differences across the segments with respect to services such as toilets, information sources, paved roads and park rangers.

Using a benefit-sought approach to segmentation, Marques et al. (2010) examined a diverse sample of domestic visitors of Portuguese protected areas. Of the five segments identified, three were characterized as nature-based (i.e., *Sociable Naturalists, Urban Visitors* and *Self-Centred Visitors*). The results for the differences between the segments with respect to the perceived importance of facilities and services revealed that, in general, information sources and general facilities (i.e., parking areas) were considered highly important. Moreover, they also observed that *Sociable Naturalists* placed more importance on the presence of specific attributes related to observation and study than visitors classified in the other segments.

Farías Torbidoni (2011) which may help to maintain or significantly enhance satisfaction with the recreation experience, and this in turn could improve the interest in and appreciation of the natural environment. The current study examined the motivations of hikers in three small Natura 2000 protected areas. It establishes a typology or categorization as a contribution to better management based on a survey conducted through on-site personal interviews with a representative sample of 569 hikers. Through an analysis of the principal intervening components by means of cluster analysis, we identified three groups of hikers based on three motivational dimensions: (1 segmented hikers by motivation in three Natura 2000 protected areas in Spain. Three segments were identified: *Nature-minded hikers*, *Sporting hikers* and *General purpose hikers*. Aside from socio-demographic and travel characteristics,

Torbidoni also examined whether the segments differed with respect to satisfaction with the facilities and services. The results indicated that *Natural-minded hikers* generally expressed higher levels of satisfaction than the other two identified segments of visitors with respect to all attributes in question. It should be noted that satisfaction, as measured in this study, was measured using nominal variables without prior evaluation of the importance of the selected attributes.

Application of service quality approaches in protected areas

The concept of service quality in protected area management is closely aligned with a framework known as experience-based management which was developed to explain the psychological and setting linkages with participation in recreational activities (Brown, 1984; Driver, 2009). In essence, this framework is built on the notion that recreation experience opportunities, as a final output of the recreation management process, can be defined as an opportunity to participate in desired activities within specific settings to achieve sought experiences. Here, setting refers to physical resources, social conditions and managerial conditions (i.e., services and facilities). The managerial condition setting inherently means that the quality of visitors´ recreation experiences, to great extent, depends on quality of the facilities and services provided by managers. According to Kano (1984, cited in Crilley, Weber & Taplin, 2012), service quality items can be categorized according to basic, excitement and performance factors. Basic factors refer to parts of the site infrastructure (i.e., to access to clean toilets, information availability). They are deemed the minimum requirements that, if not fulfilled, may result in visitors' dissatisfaction; however, their effect on overall satisfaction decreases when performance increases. Excitement factors (e.g., extraordinary interpretation of product) increase customer satisfaction if provided but do not result in dissatisfaction if not delivered. Performance factors, such as the hospitality of park staff, have a proportional relationship to satisfaction: they lead to satisfaction in case of high performance and *vice versa*. Matzler, Bailom, Hinterhuber, Renzl and Pichler (2004) added that, to be effective, managers have to meet basic expectations, remain competitive in terms of performance factors and avoid competition regarding excitement factors.

A commonly used procedure to conceptualize service quality is to compare the difference (i.e., gap) between importance (expected) and performance (perceived) of a variety of facilities and services provided by the managers (Taplin, 2012; Tribe & Snaith, 1998). A negative gap (importance exceeding performance) suggests that management action is required. Conversely, a positive gap (performance exceeding importance) suggests that no additional management action is required. The service quality gap is perceived as a reduction of a two-dimensional Importance-Performance Analysis (IPA) to a one-dimensional scale. Though often accompanied by an IPA, some scholars noted that its relatively easy application and interpretation make this approach superior to the IPA quadrant analysis (Bacon, 2003). The service quality gap has been the subject of a number of debates due to definitional and conceptual inconsistencies in reporting of performance and satisfaction (Baker & Crompton, 2000; Hamilton et al., 1991). Hamilton et al. (1991, p. 212) noted that "service quality is conceptualized to be a distinctively different construct from satisfaction, in that satisfaction relates to a specific transaction or experience, whereas service quality represents the summation of past transactions or experiences with a service". However, to ameliorate definitional and conceptual misperceptions, Baker and Crompton (2000) defined satisfaction as a measure of visitor outcome, while performance as a measure of provider output (e.g., Park manager). Following suggestions by Baker and Crompton (2000), Tonge and Moore (2007) re-defined the importance-performance method into the importance-satisfaction method to be able to evaluate the quality of visitors' experiences at the Swan Estuary Marine Park in Western Australia. The re-definition was based on the assumption that if the provision of a desired outcome

(experiences) to visitors remains one of the overarching objectives of park agencies, than satisfaction represents key information for the evaluation of outcome-based performance. For the purposes of the present study, the re-conceptualized importance-satisfaction method will be used to assess the quality of visitors´ experiences in Paklenica National Park.

Aside from the aforementioned studies, the application of the service quality gap in protected area management in the last decade and half has received considerable attention (Akama & Kieti, 2003; Arabatzis & Grigoroudis, 2010; Crilley et al., 2012; Ryan & Cessford, 2003; Wade & Eagles, 2003). Despite the extensive research performed, only one study considered visitors to be a heterogeneous group (i.e., Wade & Eagles, 2003). Namely, to examine the importance and performance of services (tours and accommodation), the aforementioned authors segmented the visitors at two national parks in Tanzania using the priori segmentation approach. In general, their findings revealed that the evaluation of performance based on homogenous visitor samples failed to recognize the existence of differences in the niche market in terms of preferences and perception of service quality. In the remaining studies, the research focus has been placed on the evaluation of facilities such as basic infrastructure (cabins, toilets, parking places), accommodation and the conditions of natural resources. For example, Ryan and Cessford (2003) and Akama and Kieti (2003) used the SERQUAL approach to evaluate the quality of the facilities and associated conditions of national parks in New Zealand and Kenya. Crilley et al. (2012) examined the perception of the quality of visitors' services with a variety of attributes in Kakadu National Park in Australia. Arabatzis and Grigoroudis (2010) integrated a gap analysis with the MUSA (Multicriteria Satisfaction Analysis) in the National Park of Dadia–Lefkimi–Souflion in Greece.

Purpose of the study and objectives

Although a considerable amount of applied research has been carried out on both market segmentation and the quality of visitor experiences in protected areas, there are still very few publications in the literature that combined these two aspects. Therefore, this study will contribute to the current body of knowledge by addressing these particular issues.

The principal objectives of this research are the following:

(i) to determine the socio-demographic and travel characteristics of the visitors to Paklenica National Park;

(ii) to segment park visitors using desired benefits as the segmentation basis;

(iii) to explore whether and to what extent the benefit segments differ in terms of the importance of and satisfaction with the facilities and services provided by the park agency;

(iv) to demonstrate the utility of the integration of visitor market segmentation and the service quality gap analysis in prioritizing management actions.

Materials and methods

Case study

Paklenica National Park (φ: 44° 18' N; λ: 44° 25'E) is the second oldest of the eight national parks in Croatia. With a surface area of approximately 95 km^2, it extends along the coastal slope of the southern part of the Biosphere Reserve 'Velebit Mountain' in the north-eastern Adriatic Sea. Thanks to a highly diverse karst landscape and a remarkable richness of endemic species and habitats (Alegro, 1995; Lukač, 2004; Perica, Marjanac, Lončar & Trajbar, 2004), Paklenica National Park is specified as a focal point of international significance within the *Natura* 2000 ecological network. It is managed and

coordinated by the National Park Paklenica Public Institution under the jurisdiction of the Ministry of Culture of the Republic of Croatia.

Located in the hinterland of the attractive coastal tourist zone known as the 'Paklenica Riviera', this park is also known as an international nature-based tourist destination. Since 2000, the park has hosted approximately 100,000 visitors per year, of which more than 90% were foreign tourists (Croatian Bureau of Statistics, 2015). The park is managed with a zoning system based on a model of concentrated recreational uses to limit the number of recreational facilities and visitor activities within the specified park area. The zone that is designated specifically for recreational purposes occupies 16.8% of the total park surface. Covering the entire area around the Velika Paklenica canyon, the recreational area stretches from the main entrance located on southern border to the Struge mountain shelter located in the far hinterland. With more than 50 km of relatively steep but arranged hiking trails and approximately 400 equipped climbing routes, it is particularly attractive for nature-based activities such as hiking, rock climbing and wildlife observation (Lukač & Šikić, 2004). The recreational zone also offers different informational products such as specific educational trails and information panels about the park's cultural and natural features. There is also a souvenir shop, two small restaurants and a sanitary section. Over 95% of all visitors are concentrated within this zone (Šikić, 2007). The second official entrance, located at the mouth of the Mala Paklenica canyon, is far less frequently used due to the higher level of conservation, hard terrain and lack of recreational facilities. The rest of the designed zones in the park include the isolated mountainous parts of the Park that are characterized by higher biodiversity conservation levels with no or very restricted visitor access (Jović, 2004; Šikić, 2007).

Two reasons were considered important for the selection of Paklenica National Park as a suitable case study. The first reason is referred to by Weaver and Lawton (2002), who rightly noted that many segmentation studies focused on ecotourists were in fact based on samples of general tourists (e.g., Palacio & McCool, 1997). Because national parks are one of the most recognized ecotourism attractions worldwide, the present authors assumed that by selecting the Paklenica National Park, the aforementioned generalizations used in sampling strategies may be partly ameliorated. The second reason is closely associated with the current management demands of the park agency. Namely, according the ten-year Paklenica National Park Management Plan, the development of continuous service quality measurement programs is highlighted as one key objective (Šikić, 2007). However, due to financial restrictions and insufficient capacity to date, such programs have not been conducted and the stated objective still remains unevaluated. The findings of this study, therefore, may directly aid park managers in empirically evaluating at least a basic level of performance in visitor management.

Sampling strategy

Visitors to Paklenica National Park were surveyed in August of 2013. The data were gathered with self-administered questionnaire using a face-to-face approach. Due to financial limitations, the questionnaire was offered in only two languages, English and Croatian. In total, 352 questionnaires were collected, of which 97.1% (342) were considered usable for further analysis. Samplings were conducted near the mouth of the Velika Paklenica canyon on a daily basis from 10 a.m. to 2 p.m. and from 6 p.m. to 8 p.m., including weekends and national holidays. The place and time period for the samplings were suggested by the park managers as the most suitable due to the highest visitors flow. A random sampling approach was chosen to obtain a representative sample. Based on a time interval of every 10 minutes, the first visitor was approached and asked to participate in the survey. Visitors were approached while they exited so as not to affect the overall trip enjoyment. In the case of groups, only one visitor was randomly sampled. Participants under 18 years of age were not included in the

survey. On average, each respondent took approximately 15 minutes to complete the questionnaire. Generally, visitors expressed a high level of collaboration, with only three participants declining to participate in the survey.

Instrument

The questionnaire was divided into three main parts. The first part gathered the visitors´ socio-demographic information (e.g., place of origin, age, gender, level of education) and travel details (e.g., purpose of the visit, group composition; place and type of accommodation). In the second part, visitors were asked to rate how important each of the listed benefit domains was for their decision to visit Paklenica National Park. The rating was performed using a 5-point Likert scale. The benefit dimensions were created based on the authors' previous study (Barić, Anić, Tončić & Macias Bedoya, 2015), in which the authors developed and validated the measurement instrument aimed at gauging visitors' desired benefits while visiting Paklenica National Park. These benefits included the following: *Enjoy nature, Novelty and learning, Socializing, Escape and solitude and Personal achievement* (i.e., χ^2=376.50, χ^2/df=3.01, RMSEA=0.08; SRMR=0.08). The third part was aimed at assessing visitor importance assigned to and satisfaction with the amenities (i.e., facilities and services) provided by the park agency. Here, visitors were asked about the importance of and their satisfaction with each of the 23 listed attributes. The rating was completed using a 5-point Likert scale. In terms of importance, the scale ranged from one (not at all important) to five (extremely important). In terms of satisfaction, the corresponding scale ranged from one (very unsatisfied) to five (extremely satisfied). Scales for attribute importance and satisfaction were aligned adjacent to each other corresponding to the list of items. The selection of the items was based upon bibliographic research (e.g., Crilley et al., 2012; Darcy, Griffin, Crilley & Schweinsberg, 2010; Taplin, 2012; Tonge & Moore, 2007). Initially, 25 items were selected; however, the number was reduced after consultations with the park managers, who deemed that two of selected attributes were inappropriate in the context of Paklenica National Park (e.g., BBQ facilities).

Data analysis

The data collected were converted and coded using the Statistical Package for Social Sciences 13.0 (SPSS). First, to identify visitor segments, hierarchical (Ward´s method) and non-hierarchical (K-mean) cluster procedures were used. The selection of the appropriate number of clusters for the non-hierarchical clustering procedures was based on subjective grounds, bearing in mind that, aside from homogeneity, clusters should mirror managerial realities. Second, to identify the underlying factors, 23 variables related to the perceived importance of the park facilities and services were factor analysed using the Principal Component Analysis (PCA) with a Varimax rotation. Third, a one-way analysis of variance (ANOVA) with the post-hoc Tukey procedure was performed to explore the differences between the segments using the following aspects: (i) desired benefit dimensions, (ii) importance of and satisfaction with park attributes and (iii) calculated gaps. Fourth, to obtain a gap value for a particular attribute, the mean for importance was subtracted from the mean for satisfaction. Here, a two-sample t-test was used to determine the gap's statistical significance.

Results

Visitors´ main characteristics

The results (Table 1 and 2) showed that, in general, visitors to Paklenica National Park were predominantly from foreign countries (82.6%), economically stable (68.8% reported personal monthly household incomes exceeding € 1,000), well educated (70.4% had university degrees), relatively young

(60.8% were between 22-34 years of age) and were balanced with regard to gender (53% male *vs.* 47% female). For these visitors, *Escape and solitude* (M=4.13) was the most important of the desired benefits when deciding to visit Paklenica National Park, followed by a desire to enjoy and admire nature (M=3.91), gain new knowledge (M=3.43), personal improvement (M=3.33) and socialization (M=3.19). With respect to general travel characteristics, a majority of the respondents tended to plan their visit to Paklenica National Park in advance (90.8%) as part of a larger itinerary (44.9%). In addition, they were predominantly first-time visitors (53.3%) who preferred to spend more than one day visiting the park (64.6%). A majority of the visitors came with a group of friends (38.2%) and spent half a day in the park (55.7%). However, regarding the accommodation preferences, visitors were generally more inclined to choose more basic accommodations (i.e., camping 60.2%) in nearby local coastal settlements in Starigrad-Paklenica (72.5%). More than half of the respondents were members of nature-related clubs or association (53.4%).

Table 1
Visitors´ socio-demographic and travel characteristics

Variables	Total sample %
Socio-demographics	
Nationality	
Domestic	17.4
Foreign	82.6
Gender	
Female	47.0
Male	53.0
Age	
Under 21	7.8
22-34	60.8
35-44	17.0
45 and older	14.6
Education	
High school degree	29.6
University degree	70.4
Household income	
Less than € 1,000	31.4
€ 1,001-2,500	42.2
€ 2,501-5,000	18.6
More than € 5,001	7.8
Travel characteristics	
Park as a vacation destination	
The main destination of my trip	39.3
One of several destinations of my trip	44.9
Did not specifically prepare	15.8
Decision time	
On the day of the visit	9.2
Within one week of arrival	34.2
8 to 30 days before arrival	17.0
More than 1 month before arrival	39.6
Membership in nature clubs or associations	
Yes	53.4
No	46.6
Duration of planned visit	
I am here only today	35.4
More than one day	64.6

Table 1 **Continued**

Variables	Total sample %
Frequency of visits	
First time	53.3
Repeated visit	46.7
Composition of group	
Individual	6.3
Partner	37.9
Family	17.6
Friend group	38.2
Location of lodging	
Mountain lodge inside the park	3.6
Within the Starigrad-Paklenica municipality	72.5
Outside of the Starigrad-Paklenica municipality	24.0
Type of accommodation	
Basic (i.e., camping)	60.2
Luxurious (i.e., apartments, hotels)	38.8

Visitor segmentation: Procedure and labelling

To ensure the validity of the chosen cluster solution, the clustering procedure combined a hierarchical (Ward) and a non-hierarchical (K-means) method. Because the number of clusters was not known in advance, the Ward method was initially performed. For the findings on group membership, the agglomeration coefficient and related dendrograms suggested four cluster solutions. Accordingly, a K-means cluster analysis was performed to test for two, three and four solutions. A three-cluster solution was deemed the most appropriate as the segments met the assumed requirements in terms of homogeneity, theoretical interpretability and managerial understandability. The segments were labelled *Naturalists, Escapists and Ecotourists.* The first segment represented 22.6% of the cases and was named *Naturalists,* representing the type of visitor for which the desired benefit *Enjoy nature* was the most important reason for visiting the park. The second segment accounted for 30.7% of the total visitors and was named *Escapists* as this segment represented visitors whose trips were primarily driven by a desire for escape and solitude and showed a moderate to weak interest in the other benefits. The third and largest segment (46.7%) was labelled *Ecotourists*. When compared to the other segments, this group of respondents exhibited not only a greater interest in benefits related to enjoying nature and novelty-learning but also showed considerably greater interest in the other benefits. The ANOVA results indicated statistically significant differences (p<0.001) in mean scores of all five benefit dimensions across the three clusters. A post-hoc Tukey procedure subsequently revealed that the segments differed from each other for all of the benefit dimensions except for the benefit *Enjoy nature*. For this dimension, the *Escapists* segment differed significantly from the other two segments, but these other two segments (*Naturalists* and *Ecotourists*) do not differ from each other (Table 3).

Table 2
Visitors' desired benefits - descriptive statistics

Desired benefits dimensions	Total sample	
	M	SD
Enjoy nature	3.91	0.64
Novelty and learning	3.43	0.86
Socializing	3.19	0.96
Escape and solitude	4.13	0.77
Personal achievement	3.56	0.75

Table 3
ANOVA results: segments differences in mean score for desired benefits

Desired benefits dimensions	Naturalists	Escapists	Ecotourists	F
Enjoy nature	4.08[a]	3.36[b]	4.18[a]	78.55***
Novelty and learning	3.65[a]	2.52[b]	3.94[c]	187.94***
Socializing	2.27[a]	2.83[b]	3.88[c]	158.84***
Escape and solitude	3.51a	4.03[b]	4.49[c]	55.79***
Personal achievement	3.05[a]	3.29[b]	4.00[c]	71.54***

*** p<0.001

Note: The means were based on a 5-point Likert scale ranging from 1 (not at all important) to 5 (extremely important). The benefit dimensions with different superscripts indicate significant differences. For example, for the desired benefit **Enjoy nature**, the mean score for **Escapists** is significantly different from the means of both **Naturalists** and **Ecotourists**; however, the means for **Naturalists** and **Ecotourists** are not significantly different.

Park facilities and services: Principal component analysis

To identify the underlying factors, a Principal Component Analysis (PCA) with a varimax rotation was performed on 23 variables related to the perceived importance of park facilities and services (Table 1). Prior to this step, a set of basic measures was examined to empirically confirm whether the selected set of variables was suitable for the proposed statistical technique. The results revealed that the overall significance of the correlation matrix was 0.000, with a Barlett test of sphericity value of 2,869.17 and a Kaiser-Meyer-Olkin value of 0.856, suggesting that the data met the fundamental requirements (Pallant, 2011). The factor analysis generated six factor solutions with eigen-values above 1. Overall, they explained 62.7% of the total variance. All corresponding items were retained because there were no variables with cross loads and all observed factor loadings were greater than 0.40 (Hair, Black, Babin, Anderson & Tatham, 2006). The reliability test (i.e., Cronbach alpha) indicated that all factors yielded satisfactory α values of >0.60 (Robinson, Shaver & Wrightsman, 1991), ranging from 0.64 to 0.86. The first factor, 'General infrastructure', contained six corresponding items and yielded a reliability coefficient of 0.81. The second factor, 'Recreational facilities' comprised four items and produced a reliability coefficient of 0.79. The third factor, 'Information sources', included five items and had an α value of 0.76. The fourth factor was labelled 'Park staff' and contained four items with a reliability coefficient of 0.85. The last two factors, 'Interpretation facilities' and 'Price', had only two items, yielding reliability coefficients of 0.85 and 0.64, respectively.

Table 4
Principal component analysis results for perceived importance of park facilities and services

Principal components	Factor loading	Eigen-value	Explained variance	Reliability coefficient
Factor 1: General infrastructure		7.080	30.8	0.815
Adequacy of toilet facilities	0.824			
Clean and well-presented toilet facilities	0.812			
The number and accessibility of parking places	0.709			
Presence and adequacy of litter bins	0.655			
Entrance accessibility	0.617			
Adaptation of the infrastructure to the natural environment	0.454			
Factor 2: Recreational facilities		2.219	9.6	0.790
The length of established walking trails	0.713			
Number and condition of sightseeing locations	0.696			
Number and condition of resting points	0.684			
The condition and safety of walking trails	0.532			

Table 4 **Continued**

Principal components	Factor loading	Eigen-value	Explained variance	Reliability coefficient
Factor 3: Information sources		1.527	6.6	0.766
Quality of directional signs on walking trails within the park	0.743			
Useful direction road signs for accessing the park	0.700			
Quality of climbing guides and hiking/trekking maps	0.651			
Access to useful pre-visit information about the park	0.597			
Informative signs about visitors safety inside the park	0.532			
Factor 4: Park staff		1.407	6.1	0.703
Knowledge demonstrated by the park staff	0.787			
Number, availability and hospitality of rescue team	0.697			
Opportunities for guided walks or talks by park staff	0.581			
Access to friendly and responsive park staff	0.580			
Factor 5: Interpretation facilities		1.183	5.1	0.859
Information panels about flora and fauna	0.789			
Information panels about cultural and historical features	0.744			
Factor 6: Price		1.021	4.4	0.640
Entrance price	0.844			
Prices in park restaurants and shops	0.772			

Segment difference in importance of and satisfaction with Park facilities and services

With respect to the perception of the importance of and satisfaction with park facilities and services, the ANOVA results revealed that the segments significantly differed in four of the six underlying factors (Tables 5 and 6). The homogenous ranking pattern was observed only for the 'General infrastructure' and 'Price' factors. Subsequently, a post hoc Tukey procedure was used to examine whether and to what extent benefit-based segments differed significantly in terms of both perceived importance of and satisfaction with the park attributes. With regard to the former, the results revealed that for the *Escapists*, 'Recreational facilities' and 'Interpretational facilities' factors were significantly less important when compared with the other two visitor groups ($p<0.001$), between which no significant difference was found. Moreover, compared with the other segments, *Ecotourists* placed significantly greater importance on the 'Information sources' and 'Park staff' attributes ($p<0.001$). Regarding satisfaction, a significant difference was identified between *Ecotourists* and *Escapists* for the 'Recreational facilities' and 'Interpretation facilities' ($p<0.001$) attributes. However, compared to *Naturalists,* the results indicated that *Ecotourists* expressed significantly higher levels of satisfaction with 'Information sources' ($p<0.01$). Finally, regarding the factor 'Park staff', the results showed that the satisfaction mean score for *Ecotourists* was significantly greater ($p<0.001$) than the scores for *Naturalists* and *Escapists* who, in this respect, did not differ from each another.

Gap analysis

The gap analysis results (Table 7) revealed that within the *Escapists* and *Ecotourists* segments, all calculated gaps were statistically significant except for two: 'Information facilities' *(*i.e., *Escapists*) and 'Interpretation facilities' (i.e., *Ecotourists).* In contrast, within *Naturalists,* a significantly different gap was found only with respect to the 'Park staff' factor. Furthermore, a negative gap (i.e., a higher mean of importance than satisfaction) was observed across all three benefit-based segments in terms of the 'General infrastructure', 'Information sources' and 'Price' factors. On the other hand, the 'Recreational facilities' and 'Park staff' factors received higher mean scores for satisfaction than importance (i.e.,

positive gap) within all three visitor groups. Regarding the 'Interpretation facilities' factor, a negative gap was recorded only for *Naturalists*. The ANOVA results revealed that the calculated gaps did not differ significantly across the segments (p<0.904).

Table 5
Segment differences in importance assigned to facilities and services of Paklenica National Park

	Naturalists	Escapists	Ecotourists	F
General infrastructure	3.85[a]	3.79[a]	3.97[a]	2.18
Recreational facilities	3.78[a]	3.18[b]	3.78[a]	19.76***
Information sources	3.84[a]	3.78[a]	4.10[b]	6.49***
Park staff	3.40[a]	3.21[a]	3.78[b]	16.58***
Interpretation facilities	3.58[a]	2.91[b]	3.71[a]	20.53***
Price	3.39[a]	3.49[a]	3.69[a]	3.03*

*p<0.05; **p<0.01;*** p<0.001

Note: The means were derived from a 5-point Likert scale ranging from 1 (not at all important) to 5 (extremely important). Within each factor, the means with different superscripts indicate significant differences. For example, for the factor 'Information sources', the mean score for **Ecotourists** is significantly different from the means of both **Naturalists** and **Escapists**; however, the means for **Naturalists** and **Escapists** are not significantly different.

Table 6
Segment differences in satisfaction expressed with the facilities and services of Paklenica National Park

	Naturalists	Escapists	Ecotourists	F
General infrastructure	3.71[a]	3.60[a]	3.77[a]	2.49
Recreational facilities	3.79[a]	3.65[ab]	3.92[ac]	5.36***
Information sources	3.65[a]	3.77[ab]	3.93[b]	4.66**
Park staff	3.68[a]	3.77[a]	4.06[b]	10.58***
Interpretation facilities	3.55[a]	3.39[ab]	3.76[ac]	5.94***
Price	3.20[a]	3.18[a]	3.40[a]	2.11

*p<0.05; **p<0.01;*** p<0 .001

Note: The means were derived from a 5-point Likert scale ranging from 1 (very unsatisfied) to 5 (extremely satisfied). Within each factor, the means with different superscripts are significantly different. For example, for the factor 'Park staff', the means for **Naturalists** and **Escapists** are not different from each other; however, both of these means are different from the mean for **Ecotourists**.

Table 7
Results from the gap analysis

	Naturalists				Escapists				Ecotourists			
	Imp.	Sat.	Gap	t-value	Imp.	Sat.	Gap	t-value	Imp.	Sat.	Gap	t-value
General infrastructure	3.85	3.71	-0.14	1.46	3.79	3.60	-0.18	2.46*	3.97	3.77	-0.20	2.61**
Recreational facilities	3.78	3.79	0.01	-0.15	3.18	3.65	0.46	-5.03***	3.78	3.92	0.15	-2.31*
Information sources	3.84	3.65	-0.21	1.98	3.78	3.77	-0.01	0.02	4.10	3.93	-0.16	2.31*
Park staff	3.40	3.68	0.29	-2.51*	3.21	3.77	0.56	-6.79***	3.78	4.06	0.27	-4.08***
Interpretation facilities	3.58	3.55	-0.02	0.49	2.91	3.39	0.48	-4.70***	3.71	3.76	0.05	-0.42
Price	3.39	3.20	-0.20	1.88	3.49	3.18	-0.31	2.35*	3.69	3.40	-0.30	2.74**

*p<0.05; **p<0 .01;*** p<0.001

Note: Imp. denotes Importance; Sat. denotes Satisfaction.

Discussion and conclusions

The main idea of this applied research was to provide a more heterogeneous perspective on the definition of the quality of visitor experiences in protected areas. To conceptualize this idea, visitors to Paklenica National Park were segmented according to the benefits sought to explore whether and

to what extent the segments differ in terms of importance of and satisfaction with the facilities and services provided by the park agency. Given the fact that, to date, the combination of visitor market segmentation based on a data-driven approach with a re-defined importance-satisfaction gap analysis has not been a subject of scientific interest, the present study makes a noteworthy contribution to the current body of knowledge.

Results obtained from the general sample indicated that in terms of socio-demographic factors, Paklenica National Park visitors were predominantly foreigners, male, middle-aged or young, well-educated and had a relatively high income level. It is interesting to note that the recorded data for place of origin strongly corresponds with the data from the Croatian Bureau of Statistics (2015), where it was observed that, out of approximately 1,000,000 visitors who visited the park in the last fifteen years, approximately 83% were from foreign countries. This empirical evidence to certain extent confirms that the collected sample is representative with respect to the general visitor population of Paklenica National Park. With respect to travel characteristics, the findings showed that the majority of visitors preferred to plan their visits in advance, stay for longer periods in the park and choose more basic accommodations located in the surrounding coastal settlements. Additionally, more than half of the visitors were repeat visitors and members of nature clubs or associations. Overall, the findings on the socio-demographic and travel characteristics match those in earlier studies aimed at identifying the general profile of nature-based tourists (Cheung & Fok, 2014; Eagles, 1992; Fennell, 2007; Holden & Sparrowhawk, 2002; Kruger, 2009; Marques et al., 2010; Wight, 1996). This information may offer park managers reliable inputs for the development of different marketing strategies, as the information provides empirical confirmation that Paklenica National Park is an international nature-based tourist destination and an important contributor to the development of tourism in nearby coastal settlements.

The results for the visitor market segmentation corroborates the standpoint of other scholars in the field, who claimed that visitors to protected areas do not respond homogenously to market activity (e.g., Bricker & Kerstetter, 2002; Marques et al., 2010; McCool & Reilly, 1993; Weaver & Lawton, 2001). Despite the fact that the *Escapists* segment showed a somewhat moderate interest in enjoying nature over other segments, overall, experiencing nature constitutes one of the core push factors for visiting the park. These findings match the general idea that contact with pristine and unspoiled nature remains a key factor in distinguishing nature-based tourist from mainstream traveller (Alaeddinoglu & Can, 2011; Ballantine & Eagles, 1994; Wight, 1996). Furthermore, it was observed that *Ecotourists* expressed a greater interest in learning experiences than *Naturalists* and *Escapists*. To a certain degree, this finding mirrored the argument of Ryan, Hughes and Chirgwin (2000), who indicated that, despite the fact that experiencing nature is a key reason for visiting natural settings, it does not inherently imply that all individuals will share similar interests regarding interpretation experiences. Following their thinking, *Naturalists and Escapists* were more likely to be engaged in *affective nature experiences*, one that allows for the chance to enjoy and admire the nature without displaying specific intellectual interest towards educational and learning experiences.

The identified segments in this study revealed strong similarities to other nature-based markets within the benefit segmentation literature. For instance, the segment *Ecotourists* are similar to the 'Sociable Naturalists' of Marques et al. (2010) and the 'Ecotourists' of Kerstetter et al. (2004) and Bricker and Kerstetter (2002), who also displayed a wider range of interest in experiences related to appreciation and education regarding nature. The *Naturalists,* on the other hand, resembled the 'Self-centered visitors' of Marques et al. (2010), as their visit was, to a lesser extent, influenced by a desire to socialize and acquire learning experiences. Finally, the *Escapists* mirrored the 'Nature escapists' of Palacio and

McCool (1997) and the 'Escapists' of McCool and Reilly (1993), for whom escape and solitude were the most important reasons for visiting the park. This finding, to a certain extent, indicated that for this group of visitors, the natural environment is rather perceived as a place to which one flees from daily pressures rather than a setting for contemplation or interpretation.

The findings on the quality of the visitors' experiences proved to be an interesting basis for further discussion. In terms of the importance of and satisfaction with the park's facilities and services, the segments differed significantly in four of the six underlying factors. The balanced rating pattern was observed for the 'General infrastructure' and 'Price' factors. To *Naturalists* and *Escapists,* the presence, availability and conditions of the general infrastructure were considered the most important attributes, whereas to *Ecotourists,* accessibility to information was most important. The recreational and interpretation facilities were significantly less important to *Escapists* compared with the other segments. These findings are consistent with those of McCool and Reilly (1993), who also found that solitude and escape seekers placed less importance on most of the assessed attributes.

The results obtained from the gap analysis revealed that the quality of experience for all three identified segments was adversely affected (negative gap) by the condition of the general infrastructure, availability of information and price. Because the first two attributes were highlighted as the most important for all three segments observed, the findings provide managers with clear evidence that immediate management action is needed. On the other hand, satisfaction with recreational facilities and hospitality shown by park staff exceeded importance (positive gap), suggesting that no specific action is required in this respect. Interestingly, it was observed that the interpretation facilities only positively affected the quality of the *Escapists´* experiences. This finding is of special importance to park managers as it indirectly revealed the quality of the experiences of the visitors (i.e., *Naturalists* and *Ecotourists*; 69.3%) for whom interpretation experiences and associated attributes were highly important was negatively affected by the interpretation facilities (i.e., educational panels). Therefore, this information clearly warns managers to focus their attention on the continuous development of constructive and competitive interpretation strategies.

The findings of this study may have important implications for future research. Precisely, based on the current findings, it would be interesting to more accurately discover whether and to what extent visitors labelled *Naturalist*, *Escapist* and *Ecotourists* differ in terms of participated activities. Such research could provide park managers with more concrete information about the linkages between visitors' benefit sought and recreational opportunities (i.e., facilities and services) provided by the park agency. It would also be interesting to consider the potential of developed approach in this study (i.e. integration of benefit sought segmentation and service quality gap analysis) in terms of its application to other protected areas (e.g. national parks). Informations obtained from such comparative studies could be of great help not only to park managers but also can be used by wider policy making community as valuable inputs for reporting the management effectiveness of networks of protected areas at the site, or at the national, regional or trans-boundary levels.

Finally, the limitations of this applied research need to be acknowledged. Namely, despite the fact that the tourist period lasts from May until the end of October, due to the financial limitations, the sampling was carried out in a relatively short period of time (during the month of August). Therefore, the results, though valuable and reliable, should not be generalized until continuous monitoring confirms the stability of the identified segments over a longer period of time.

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